OIT001- INTRODUCTION TO PROGRAMMING

Credit Hours: 3 Semester Hours
Related TAG: Information Technology
Student Learning Outcomes marked with an asterisk (*) are considered essential and must be covered:
Learning outcomes 1. Understand information technology fundamentals and use basic software applications to solve problems. *
Learning outcomes 2. Design solutions using pseudocode and/or flowchart to solve programming problems. *
Learning outcome 3. Identify data types and use variables for input and output operations. *
Learning outcomes 4. Demonstrate the ability to use operators to create logical expressions, mathematical calculations, and assignment statements. *
Learning outcome 5. Build conditional logic using Boolean expressions and decision structures. *
Learning outcomes 6. Construct loops to implement iterative logic. *
Learning outcomes 7. Create and use functions and modules. *
Learning outcomes 8. Create a data structure, such as an array, to store and manipulate a collection of related elements. *
Learning outcomes 9. Properly use error checking, debugging, and data validation. *
Learning outcomes 10. Understand fundamental use of data structures (strings, lists, and maps).
Learning outcomes 11. Demonstrate an awareness of cybersecurity principles.

OIT002- INTRODUCTION TO DATABASE ADMINSTRATION

Credit Hours: 3 Semester Hours
Related TAG: Information Technology
Student Learning Outcomes marked with an asterisk (*) are considered essential and must be covered:
Learning outcomes 1. Understand the role of databases and database management systems in managing organizational data and information. *
Learning outcome 2. Understand the historical development of database management systems and logical data models. *
Learning outcome 3. Use a conceptual data modeling technique (such as entity-relationship modeling) to capture the information requirements for an enterprise. *
Learning outcome 4. Design and normalize relational databases to at least the third normal form (3NF).*
Learning outcomes 5. Use the data definition, data manipulation, and data control language components of SQL in the context of one widely used implementation of the language. *
Learning outcomes 6. Perform simple database administration tasks. *
Learning outcomes 7. Understand the concept of database transaction and apply it appropriately to an application context. *
Learning outcomes 8. Understand the role of databases and database management systems in the context of enterprise systems. *
Learning outcomes 9. Understand the key principles of data security and identify data security risk and violations in data management system design. *

OIT003- INTRODUCTION TO WEB DEVELOPMENT

Credit Hours: 3 Semester Hours
Related TAG: Information Technology
Student Learning Outcomes marked with an asterisk (*) are considered essential and must be covered:
Learning outcomes 1. Understand foundations, resources and applications of the Internet and the world-wide web. *
Learning outcome 2. Build websites using current HTML standards to establish document structure and content of webpages. *
Learning outcome 3. Apply CSS elements to describe the presentation of webpages. *
Learning outcome 4. Effectively incorporate multimedia files for websites. *
Learning outcomes 5. Develop basic programming skills using interactive client-side programming language to enhance webpages. *
Learning outcomes 6. Apply other appropriate industry tools, technologies, and web standards from standards bodies for web development. *

OIT004- SYSTEM ADMINSTRATION

Credit Hours: 3 Semester Hours
Pre-Requisite: Introduction to Networking
Related TAG: Information Technology
Student Learning Outcomes marked with an asterisk (*) are considered essential and must be covered:
Learning outcomes 1. Select the appropriate IT infrastructure. *
Learning outcomes 2. Install, configure, and maintain operating systems and hardware. *
Learning outcome 3. Incorporate appropriate security mechanisms. *
Learning outcome 4. Use troubleshooting methodologies to resolve system administration issues. *
Learning outcomes 5. Manage integrated IT systems. *
Learning outcomes 6. Describe DRP or BCP plans. *
Learning outcomes 7. Implement IT governance. *
Learning outcomes 8. Produce IT documentation. *

OIT005- INTRODUCTION TO CYBERSECURITY

Credit Hours: 3 Semester Hours
Related TAG: Information Technology
Student Learning Outcomes marked with an asterisk (*) are considered essential and must be covered:
Learning outcome 1. Discuss the social theories of computer-enabled abuse and the role of compliance framework in mitigating abuse. *
Learning outcomes 2. Discuss the malicious user's motivation such as social engineering and cyber warfare. *
Learning outcome 3. Explain worms, trojans, viruses, spyware, ransomware other types of malicious software. *
Learning outcomes 4. Demonstrate an understanding of how encryption can be used and abused (such as Public Key, cryptography, symmetric cryptography, algorithm length, escrow, key recover, key splitting, random number generator, nonce, initialization vector, cryptographic mode, plaintext, cipher text, S/MIME, PGP, IPsec, TLS). *
Learning outcome 5. Describe the standards and communication protocols associated with cybersecurity. *
Learning outcome 6. Categorize various types of network and computer attacks and the actors that might perform them (potential system attacks, MITM attacks, DOS attacks, black hat attackers (nation states), etc.). *
Learning outcome 7. Compare firewalls, intrusion detection, and intrusion prevention. *
Learning outcome 8. Examine how information security can be used to mitigate cyber-crimes. *
Learning outcome 9 Create a plan to defend against cyber-attacks. *
Learning outcomes 10. Formulate an incident response plan. *

OIT006- INTRODUCTION TO NETWORKING

Credit Hours: 3 Semester Hours
Related TAG: Information Technology
Student Learning Outcomes marked with an asterisk (*) are considered essential and must be covered:
Learning outcomes 1. Describe the fundamental concepts, technologies, components and issues related to communications and data networks. *
Learning outcome 2. Describe common Networking models. *
Learning outcome 3. Describe and construct common network media. *
Learning outcome 4. Describe Common Network Devices and their role in the network (Routers, Switches, Hosts, VPNs, Firewalls). *
Learning outcome 5. Use common OSI network protocols. *
Learning outcomes 6. Design a basic network architecture given a specific need and set of hosts/clients. *
Learning outcome 7. Identify and use monitoring tools to decode and analyze network traffic (e.g., WireShark). *
Learning outcome 8. Perform network mapping (enumeration and identification of network components) (e.g., Nmap). *
Learning outcome 9. Describe common network vulnerabilities. *